Lavendustin B

Cat. No.: HY-108935

CAS No.: 125697-91-8

Molecular Formula: $C_{21}H_{19}NO_5$

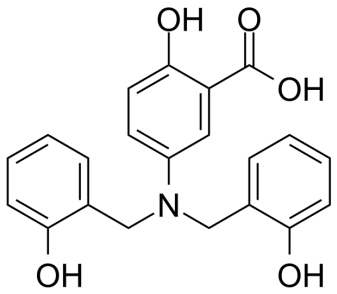
Molecular Weight: 365.38

Target: HIV Integrase; GLUT; Tyrosinase

Pathway: Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (136.84 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7369 mL	13.6844 mL	27.3688 mL
	5 mM	0.5474 mL	2.7369 mL	5.4738 mL
	10 mM	0.2737 mL	1.3684 mL	2.7369 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.84 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.84 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lavendustin B is an inhibitor of HIV-1 integrase interaction with LEDGF/p75 with an IC_{50} of 94.07 μM. Lavendustin B is an ATP-competitive GLUT1 inhibitor with a K_i of 15 μM. Lavendustin B is also a weak inhibitor of tyrosine kinases[1][2].

IC_{50} & Target

GLUT1 15 μM (Ki)	HIV-1 integrase interaction with LEDGF/p75 94.07 μM (IC_{50})

In Vitro

In HL-60 cells, Lavendustin B (0-1000 μM) inhibits the uptake of methylglucose, deoxyglucose, and dehydroascorbic acid in human erythrocytes in a dose-dependent manner, with 50% inhibition observed at approximately 10-30 μM. Moreover, increasing concentrations of Lavendustin B inhibited, in a dose-dependent manner, the binding of cytochalasin B to human erythrocyte membranes[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. J C Vera, et al. Direct inhibition of the hexose transporter GLUT1 by tyrosine kinase inhibitors. Biochemistry. 2001 Jan 23;40(3):777-90.

[2]. Fatima E Agharbaoui, et al. Computational and synthetic approaches for developing Lavendustin B derivatives as allosteric inhibitors of HIV-1 integrase. Eur J Med Chem. 2016 Nov 10;123:673-683.

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